REMARKS

Initially, Applicant expresses appreciation to the Examiner for the courtesies extended in the recent in person interview held between the Examiner and Applicant's representative, and for the subsequent telephonic discussion regarding this application. The amendments and remarks discussed herein are consistent with Applicant's position during those discussions. Accordingly, entry and reconsideration is respectfully requested.

The final Office Action, mailed January 11, 2007, considered and rejected claims 1-7 and 9-21. Claims 1-7 and 9-21 were rejected as being unpatentable under 35 U.S.C. § 103(a) as being unpatentable over *Kaasila* (U.S. Patent No. 5,155,805) in view of *Stamm* (U.S. Patent No. 6,249,908), *Kurachi* (U.S. Patent No. 5,471,550) and *Bloomberg* (U.S. Patent No. RE38,758).[1]

By this paper, claims 1-7 and 9-21 are cancelled, and claims 22-37 added.[2] Accordingly, following this paper, claims 22-37 remain pending, of which claims 1, 36 and 37 are the only independent claims at issue.

Initially, Applicant notes that the various claims have been cancelled and replaced to clarify various potential sources of ambiguity, as noted by the Examiner during the interview discussion. Accordingly, Applicant thanks the Examiner for calling such ambiguities to Applicant's attention and respectfully submits that the claims, as amended, clear-up any potential ambiguities in claim language and form.

As reflected in the above claim listing, Applicant's claims are generally directed methods, computer program products, and systems for automatically and dynamically determining one or more directions of freedom and an order for applying the one or more directions of freedom to move a control point in a manner that complies with a constraint and with a reduced likelihood of causing non-compliance with other constraints. As reflected in claim 1, for example, such a method includes receiving a set of control points that represent a graphical object, and receiving one or more constraints on the control points. For a particular control point, a first constraint for the control point is identified along with a first direction of compliance along which compliance with the first constraint is measured. It is further calculated that the control point does not comply with the first constraint. Thereafter, an order for setting directions of freedom are automatically and dynamically determined, based at least in part on a comparison of angles created between the first direction of compliance and first and second axes. In such

[1] Although the prior art status of the cited art is not being challenged at this time, Applicant reserves the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

[2] Support for the new claims can be found throughout Applicant's original application, including at least the disclosure in original paragraphs 30, 31 and 37-59, and in the originally filed claims and figures.

an act of setting an order of directions of freedom, first and second angles are calculated between the first direction of compliance and the first and second axes. The first angle and second angle are then compared and it is determined that the first angle is less than the second angle, such that the first direction of compliance is closer to the first axis than the second axis. Then, based on the determination that the first angle is less than the second angle and therefore that the first direction of compliance is closer to the first axis than the second axis, the first axis is set as the first direction of freedom for moving the control point and prior to setting the second direction of freedom for subsequently moving the control point. Accordingly, the order in which the directions of freedom are set is automatically and dynamically dependent upon a magnitude of each of the first and second angles calculated and compared in the method.

As discussed with the Examiner during the interview, while the various references generally relate to methods and systems for rendering fonts, they fail to disclose or suggest each and every limitation of the pending claims. For example, whether considered alone or in combination, the cited references fail to disclose or suggest calculating angles between axes and a first direction of compliance and thereafter comparing them such that when the first direction of freedom is set, it is based upon that comparison and a determination that the first axis is closer to the first direction of compliance than is the second axis, as claimed in combination with the other cited references.

For example, *Kaasila* generally describes a system in which font hinting instructions are followed to manipulate and render a text character. In *Kaasila*, pre-programmed font instruction are specifically shown with respect to maintaining the symmetry of a letter "o" and for maintaining the diagonal stroke weight of a "Y". (Col. 7, ll. 55-64). With reference to the letter "o" (which is principally described in Figure 8 and the text related thereto), *Kaasila* discloses font instructions which are created and in which the projection and freedom vectors are set in default to both be in the x-axis and, thereafter, moving the control points along the x-axis. (Col. 8, ll. 20-26). *Kaasila* also discloses that following movement of the control point along a freedom vector aligned with the x-axis, the font instructions simultaneously set projection and freedom vectors to the y-axis. (Col. 8, ll. 20-26, Fig. 8). Accordingly, while *Kaasila* discloses that freedom vectors are set along axes, *Kaasila* fails to disclose that to determine where to position the freedom vector, angles are calculated between the projection vector and the respective axes, that the angles are subsequently compared, or that, the order for setting the freedom vectors is set, based on a comparison of the relative magnitudes of the calculated angles, as recited in combination with the other claim elements. Stated another way, *Kaasila* discloses setting freedom vectors along axes by using predetermined hinting instructions such as those illustrated in Figure 8, but

fails to provide any teaching or suggestion of how the order for setting freedom vectors is determined, let alone that it is done by comparing angles between a first direction of compliance and two axes.

Applicant respectfully submits that the second embodiment in *Kaasila* as it relates to manipulation of the letter "Y" is no less instructive in this regard (*see* Figures 12A-13 and the related text). With reference to this embodiment, *Kaasila* discloses that projection vectors and freedom vectors are applied, along with delta instructions which move control points, to adjust the diagonal strokes of the letter "Y". (Col. 10, ll. 14-17). To do so, font instructions initially set the direction of both the projection and freedom vectors along the y-axis. (Col., 10, ll. 19-22; *see* line 7 in Figure 13). Subsequently, the font instructions set a second projection vector perpendicular to the line 1-0 on the "Y". (Col. 10, ll. 21-26, *see* line 11 in Figure 13). Thereafter, font instructions specify that a second freedom vector be set parallel to the line 6-7 on the outline of the "Y". (Col. 10, ll. 26-31; *see* line 12 in Figure 13). A similar instruction is included for specifying the directions of third projection and freedom vectors, in which the third projection vector is set perpendicular to line 5-4 and the third freedom vector is set parallel to line 7-8. (Col. 10, ll. 38-43; *see* lines 15 and 16 of Figure 13).

Accordingly, *Kaasila* discloses that freedom vectors are specified in the font instructions and specified in a particular order. *Kaasila* fails, however, to provide any disclosure as to the manner for determining that order. Moreover, *Kaasila* expressly discloses only ten routines available to observe and manipulate freedom and projection vectors, each of which set, write, or read a projection vector. (Col. 9, ll. 45-62). Notably, however, none of the ten available routines calculates the angle between any vector and an axis, compares multiple angles, or determines an appropriate order to use freedom vectors, as recited in combination with the other claim elements. This is particularly so when considering the embodiments disclosed with regard to Figures 8 and 13. In each case, and as disclosed above, projection and freedom vectors are set either simultaneously, or without any intervening steps. Accordingly, *Kaasila* fails to disclose that between determining the first direction of compliance and setting the first direction of freedom, additional acts of calculating angles, comparing angles, and setting an appropriate order for directions of freedom are performed, as recited in combination with the other claim elements.

Applicant further acknowledges that, as described above, by setting a first direction of compliance, angles between that first direction of compliance and various axes are created. Applicant notes, however, that creating an angle such that it is *calculable* and actually *calculating* the angle are different acts. Indeed, calculating the angle (as opposed to creating an angle which is calculable) recites an affirmative act whereas creating an angle may allow the angle to be determined but does not require that it necessarily be so calculated. Accordingly, while *Kaasila* appears to disclose setting projection vectors which have angles between axes, merely creating angles does not include the actual and additional

step of calculating such angles as recited above, nor the comparison of such angles or the setting of a degree of freedom based on such a comparison toward the axis closer to the projection vector.[3]

Accordingly, Applicant respectfully submits, for these reasons, as well as the others discussed during the interview, that *Kaasila* fails to disclose or suggest each and every limitation of the pending claims.

Moreover, Applicant also respectfully submits that the remaining references, whether considered alone or in combination with *Kaasila*, similarly fail to disclose a system for determining the order for applying directions of freedom as recited in the above claims.

For instance, *Stamm* discloses that a font is rendered by using a control point data structure that has data fields that define the control point and includes data such as: a rounding method; a freedom direction; minimum distance, relationship type, glyph features, and the like. (Col. 9, ln. 25 to Col. 10, ln. 65). With respect to the freedom direction, a freedom direction data field specifies whether the freedom direction is parallel to grid lines, or perpendicular to a stroke or adjusted italic angle. (Col. 9, ln. 59 to Col. 10, ln. 6). *Stamm* further discloses that this data structure can then be converted to generate hinting instructions for moving control points. (Col. 16, ll. 26-41).

Accordingly, *Stamm* discloses that freedom vectors are specified in a data structure according to the type of text of which they are a part, and without any reference to use of a projection vector, let alone a comparison of angles between a projection vector and two axes. Moreover, while the data structure is converted to hinting instructions, there is no disclosure which appears to describe the manner of calculating the order in which freedom vectors are applied, let alone in the manner claimed above.

Kurachi discloses converting image outline data into dot data for printing and displaying an image. In particular, the reference discloses a method for keeping lines straight when filling in the dots

---

[3] Applicant also respectfully notes that the Office Action states that two angles are inherently compared by determining the first direction of compliance such as the projection vector. Applicant notes, however, with respect to an assertion based on inherency, the Office "must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." (M.P.E.P. § 2112(IV), emphasis in original). The Office Action fails, however, to provide any reasoning, either in fact or technical, as to why it is inherent that upon creating an angle, the angles are necessarily calculated, let alone that they are compared, such that it the only possible manner in which the method can be implemented (i.e., that it necessarily flows from the teachings of the art). In fact, the closest the Office Action comes is to provide a mere conclusion that such teaching is inherent. (Office Action, p. 7). A mere statement that it is inherent to compare angles created by a first direction of compliance and X and Y axes is inherent fails, however, to provide any actual technical reasoning as to why creating two angles necessarily requires comparing the two angles. In this regard, Applicant notes that "the mere fact that a certain thing may result from a given set of circumstances is not sufficient." (*In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d (BNA) 1949, 1950-51 (Fed. Cir. 1999); M.P.E.P. § 2112(IV)). Thus, if the allegedly inherent feature could be replaced by any other feature, or implemented in any other way, the claimed feature is not inherent. In the present case, for example, freedom vectors which are set and ordered could and instead set by using predetermined and pre-specified font instructions, with complete disregard to the angles between a projection vector and their respective magnitudes. For example, a font typographer can set font hinting instructions according to trial and error or by some other mathematical calculation to set freedom vectors. Accordingly, a typographer may set freedom vectors according to trial and error, without any consideration of, let alone decision based upon, the relative magnitudes of the angles between a first direction of compliance and two axes. Inasmuch as other alternatives exist, comparing two angles clearly does not necessarily flow from the teachings of setting a projection vector, and is thus not inherent.

between lines of an image outline. In particular, *Kurachi* discloses setting a predetermined reference direction and receiving the coordinates of the current image outline data and comparing the coordinates with the reference direction. If the angle between the predetermined reference direction and the line of the current image is within an acceptable range (such as ±5°), then the image does not need to be corrected. (Col. 10, ll. 38-60). If, however, the line is not within tolerances, a correction step is performed to match the predetermined reference direction. (Col. 11, ll. 30-58).

Accordingly, *Kurachi* disclose that a calculated angle of a line segment is compared against a predetermined tolerance angle. *Kurachi* does not appear to have, however, any disclosure relating to calculating or comparing angles between a direction of compliance and two different axes, or even setting a direction of freedom, let alone the order of applying directions of freedom. Moreover, to the extent it is relevant to the above claims, *Kurachi* discloses the opposite of the claims above. Specifically, whereas the above claims set a first direction of freedom to the closer of two angles, *Kurachi* expressly discloses that it is only when the calculated angle is greater than a tolerance angle that the line is adjusted.

Bloomberg generally relates to decoding a glyph code using three or more reference points so as to compute a bitmap skew and X and Y scale correction factors. (Col. 17, ll. 53-58). As disclosed in *Bloomberg*, X and Y scale correction factors are used to calibrate average displacement of images along X and Y axes. (Col. 17, ll. 58-62). The skew correction factor is utilized to set angles of X and Y displacement vectors that allow image processing to jump from one glyph to the next. (Col. 18, ll. 1-7).

Notably, however, *Bloomberg* fails to have any disclosure of angles being calculated, compared, and/or used to determine the order of applying a direction of freedom. Indeed, the angles in *Bloomberg* appear to be the angles of displacement vectors for jumping between glyphs, and are calculated based on a skew correction factor, rather than by using any first direction of compliance or projection vector. Indeed, the only comparison in *Bloomberg* is of displacement values, however, *Bloomberg* has no disclosure that such a comparison is utilized to even set the angles of the X and Y displacement vectors, let alone a direction of freedom for a control point, or that such a determination would be ordered based on the magnitude of the determined angles, as recited in combination with the other claim elements.

Accordingly, and in summary, the cited references, while generally relating to image rendering and manipulation, fail to disclose or suggest each and every limitation of the pending claims, whether considered alone or in combination. In view of the foregoing, and the other reasons presented during the interview with the Examiner, Applicant respectfully submits that the other rejections to the claims are now moot and do not, therefore, need to be addressed individually at this time. It will be appreciated, however, that this should not be construed as Applicant acquiescing to any of the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any official

notice. Instead, Applicant reserves the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any Official Notice, explicitly or implicitly, Applicant specifically requests that the Examiner provide references supporting the teachings officially noticed, as well as the required motivation or suggestion to combine the relied upon notice with the other art of record.

Dated this 2nd day of April, 2007.

Respectfully submitted,

Colby C. Nuttall

RICK D. NYDEGGER
Registration No. 28,651
JENS C. JENKINS
Registration No. 44,803
COLBY C. NUTTALL
Registration No. 58,146
Attorneys for Applicant
Customer No. 047973

RDN:JCJ:CCN:gd